

CLAIMS

1. An apparatus for accelerating a processor running an object-oriented programming language, comprising:

a hardware accelerator interfaced with said processor for implementing at least one application framework of said object-oriented programming language, wherein said at least one application framework comprises a set of classes that embodies an abstract design for solutions to a number of related problems; and

a software stub that controls interfacing of said hardware accelerator with said processor.

2. The apparatus of Claim 1, further comprising a hardware object management system interacting with said hardware accelerator for managing instances of said application framework and the states of values assigned to said instances based upon said hardware object management system interacting with said hardware accelerator circuit.

3. The apparatus of Claim 1, wherein said hardware accelerator comprises: an Input/Output request queue interacting with said processor for receiving and sequentially storing said instructions pending execution of each instruction;

a task processor for processing said instructions from said Input/Output request queue; and

an active object list for tracking the number of reference counts to an instance and for deallocating an instance that is not in use based upon a result of said task processor processing said instructions.

4. A method for accelerating a processor running an object-oriented programming language, comprising the steps of:

implementing at least one application framework of said object-oriented programming language with a hardware accelerator interfaced with said processor, wherein said at least one application framework comprises a set of classes that embodies an abstract design for solutions to a number of related problems; and

controlling said interface between said hardware accelerator circuit and said processor with a software stub.

5. The method of Claim 4, further comprising the step of managing instances of said application framework and the states of values assigned to said instances using a hardware object management system communicating with said processor and communicating with said hardware accelerator.

6. The method of Claim 5, wherein said step of implementing at least one application framework comprises the steps of:
receiving and sequentially storing said instructions communicated from said processor in an Input/Output request queue pending execution of each instruction;
processing said instructions from said Input/Output request queue in a task processor; and
tracking the number of reference counts to an instance and deallocating an instance that is not in use with an active object list based upon interactions with said hardware object management system.

7. The method of Claim 4, wherein said hardware accelerator is further comprised of a Java.NET circuit to implement the Java.NET and Java.IO application frameworks.

8. The method of Claim 7,
wherein the method is further comprised the steps of:
creating and displaying windows and views with a windowing/view system; and
managing a network connection using a connectivity engine in said Java.NET circuit.

9. The method of Claim 5, wherein said hardware object manage system provides object IDs back to a calling system, and wherein said object ID can be of a variable bit length.

10. The method of Claim 5, wherein said hardware object management system can accept object IDs from a calling system to identify, said object identification objects, said method further comprising the steps of:

storing a base object ID in a base reference register and associating said base object ID with a free object location; and

referencing all further object IDs to said base reference register to
associate said object ID to an object location.

11. The apparatus of Claim 1, wherein said object-oriented programming
language is C++.

12. The apparatus of Claim 1, wherein said object-oriented programming
language is Java.

13. The method of Claim 4, wherein said object-oriented programming
language is C++.

14. The method of Claim 4, wherein said object-oriented programming
language is Java.

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